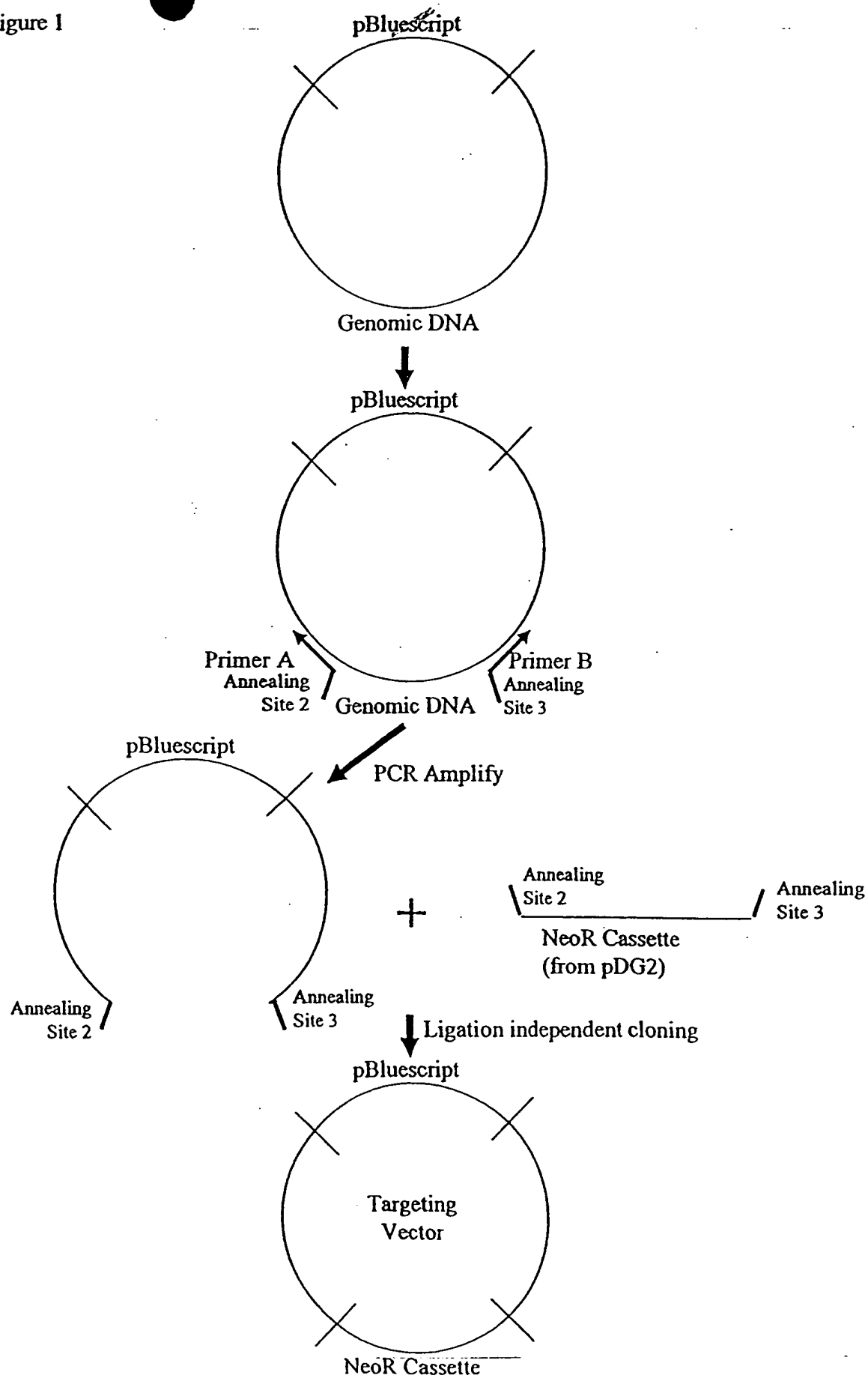


Figure 1



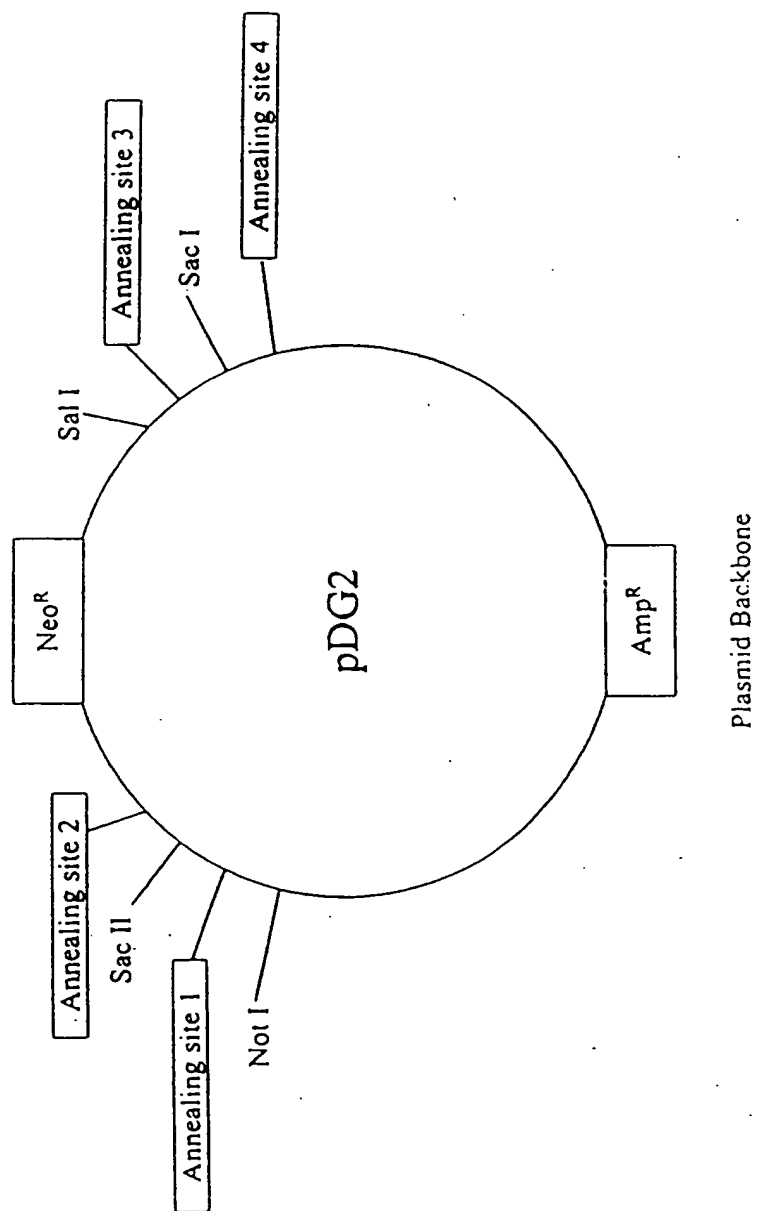


FIGURE 2A

FIGURE 2B

pDG2:

GTTAACTACGTCAGGTGGCACTTTTCGGGGAAATGTGCGCGGAACCCCTATTGTTTATTTTTCTAAATACATTCAAATA  
TGTATCCGCTCATGAGACAATAACCTGATAAATGCTTCAATAATATTGAAAAGGAAGAGTATGAGTATTCAACATTTTC  
CGTGTTCGCCCTTATTCCTTTTTTTCGGGCATTTTGCTTCTGTTTTGCTCAGCCAGAAACGCTGGTGAAGTAAAAGA  
TGCTGAAGATCAGTTGGGTGCAGAGTGGGTACATCGAACTGGATCTCAACAGCGGTAAAGATCCTTGAGAGTTTTCGCC  
CCGAAGAACGTTCTCCAATGATGAGCACTTTTAAAGTTCTGCTATGTGGCGCGTATTATCCCGTGTGACGCCGGGCAA  
GAGCAACTCGGTTCGCCCATACACTATTCTCAGAATGACTTGGTTGAGTACTCACCAGTCAAGAAAAGCATCTTACGGA  
TGGCATGACAGTAAGAGAATTATGCACTGCTGCCATAACCATGAGTGATAAAGTGGCGCAACTTACTTCTGACAACGA  
TCGGAGGACCGAAGGAGCTAACCGCTTTTTTGCAACATGGGGGATCATGTAAGTCCGCTTGATCGTTGGGAACCGGAG  
CTGAATGAAGCCATACCAACGACGAGCGTGACACCAAGATCGCTGTAGCAATGGCAACACGTTGCGCAAACTATTAAAC  
TGGCGAACTACTTACTCTAGCTTCCCGCAACAATTAATAGACTGGAGGCGGATAAAGTTGCGAGGACCACTTCTGC  
GCTCGGCCCTTCCGGTGGGTGGTTATTGCTGATAAATCTGGAGCCGGTGAGCGTGGGTCTCGCGGTATCATTTGCAGCA  
CTGGGGCCAGATGGTAAGCCCTCCCGTATCGTAGTTATCTACAGACGGGGAGTGGGCAACTATGGATGAACGAAATAG  
ACAGATCGCTGAGATAGGTGCTCTGATTAAGCATTGGTAACTGTGACACCAAGTTTACTCATATATACTTTAGATTG  
ATTTACCCGGTTGATAATCAGAAAAGCCCCAAAAACAGGAAGATTGTATAAGCAAAATTTTAAATTTGTAACGTTAATA  
TTTTGTTAAAATTCGCGTTAAAATTTTGTAAAATCAGCTCATTTTTTAAACCAATAGGCCGAAATCGGCAAAATCCCTTAT  
AAATCAAAGAATAGCCGAGATAGGGTTGAGTGTGTTCCAGTTTGGAAACAAGAGTCCACTATTAAGAAACGTTGAGTCTC  
CAAGCTCAAAGGGCGAAAAACCGTCTATCAGGGCGATGGCCCACTACGTGAACCATCACCCAAATCAAGTTTTTGGGGT  
CGAGGTGCGGTAAAGCACTAAATCGGAACCTAAAGGGAGCCCCGATTAGAGCTTGACGGGGAAAGCGAACGTTGGCGA  
GAAAGGAAGGGAAGAAAGCGAAAGGAGCGGGCGCTAGGGCGTGGCAAGTGTAGCGGTACGCTGCGCGTAACCAACACA  
CCGCGCGCGCTTAATGCGCGCTACAGGGCGCGTAAAGGATCTAGGTGAAGATCCTTTTGATAATCTCATGACCAAAA  
TCCCTTAAAGTGAGTTTTCGTTCCTGAGCGTACAGCCCGTAGAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTT  
CTGCGCGTAATCTGCTGCTTGCAAAACAAAAAACCCGCTACCAGCGGTGGTTTGTTCGGGATCAAGAGCTACCAAC  
CTTTTTTTCGAAGGTAAGTGGCTTACGAGAGCGCAGATACCAAAATCTGTTCTTCTAGTGTAGCCGTAGTTAGGCCACC  
ACTTCAAGAACTCTGTAGCACCGCTACATACCTCGCTCTGCTAATCCTGTTACCAGTGGCTGCTGCCAGTGGCGATAAG  
TCGTGCTTACCGGGTTGGACTCAAGACGATAGTTACCGGATAAGGCGCAGCGGTGGGCTGAACGGGGGGTTCGTGAC  
ACAGCCAGCTTGGAGCGAACGACCTACACCGAAGTGAATACCTACAGCGTGAAGTATGAGAAAGCGCCACGCTTCCCG  
AAGGGAGAAAGGCGGACAGGTATCCGGTAAGCGGCGAGGTTCGGAACAGGAGAGCGCACGAGGGAGCTTCCAGGGGGAAC  
GCCTGGTATCTTTATAGTCTGTGCGGTTTTCGCCACCTCTGACTTGAGCGTGCATTTTGTGATGCTCGTCAGGGGGCG  
GAGCCTATGGAAAAACGCCAGCAACCGCGCTTTTACGGTTCTGCGCTTTTGTGCGCTTTTGTCTCATATGTAATGTG  
AGTTAGCTCACTCATTAGGCACCCAGGCTTTACCTTTATGCTTCCGCTCGTATGTTGTGTTGAATGTGAGCGGATA  
ACAATTTACACAGGAAACAGCTATGACCATGATTAGCCCAAGCTACGTAATACGACTCACTAGCGCGCGCGTTTAAAC  
AATGTGCTCCTCTTGGCTTGTCTCCGCGGCCAAGCCAGACAAGAACAGTTGACGTCAGCTTCCCGGACGCGTGCT  
AGCGGCGCGCGAATCTCTGAGGATTGAGGGGCCCTGCAAGTCAATCTACCGGTAGGGGAGGCGCTTTCCCAAGG  
CAGTCTGGAGCATGCGCTTAGCAGCCCGCTGGCACTTGGCGCTACACAAGTGGCTCTGGCCTGCACACATTCACACA  
TCCACCGGTAGCGCAACCGGCTCGTTCTTGGTGGCCCTTCGCGCCACCTTCTACTCTCCCTAGTCAGGAAGTTC  
CCCCCGCCCCGAGCTCGCGTCTGTCAGGACGTGACAAATGGAAGTAGCACGTCTCACTAGTCTCGTGAGATGGACAG  
CACCGCTGAGCAATGGAAGCGGTAGGCTTTGGGGCAGCGGCAATAGCAGCTTGTCTCCTTCTGCGGCTCAGA  
GGCTGGGAAGGGGTGGGTCCGGGGCGGGCTCAGGGGCGGGCTCAGGGGCGGGCGGGCGGAAGTCTCCCGAGGCC  
GCAATTCTCGACGCTTCAAAGCGCAGCTCTGCGCGCTTCTCTCTCTCTCATCTCGGGCCTTTCGACCTGCGAGC  
GGAATGGATCGGCCATTGAACAAGATGGATTGCAAGCAGGTTCTCGGCGCGCTTGGGTGGAGAGGCTATTCCGCTATG  
ACTGGGCACAACAGACAATCGGCTGCTCTGATGCGCGGTGTTCCGGCTGTGAGCGCAGGGGCGCCCGTTCTTTTGTG  
AAGACCGACCTGTCCGGTGCCTGAATGAAGTGCAGGACGAGGCGCGGCTATCGTGGCTGGCCACGACGGGCGTTCC  
TTGCGCAGCTGTGCTCGACGTTGTCACTGAAGCGGGAAGGAGTGGCTGCTATTGGGCGAAGTGGCGGGGAGGATCTCC  
TGTCTCTCACCTTGCTCCTGCGGAGAAAGTATCCATCATGGCTGATGCAATGCGGCGGCTGCATACGCTTGATCCGGCT  
ACCTGCCCATTTCAGCACCAAGCGAAACATCGCATCGAGCGAGCAGTACTCGGATGGAAGCGGTCTTGTGATCAGGA  
TGATCTGGACGAAGAGCATCAGGGGCTCGCGCCAGCGAAGTGTTCGCCAGGCTCAAGGCGCGCATGCCGACGGCGATG  
ATCTCGTCTGACCCATGGCGATGCTGCTTGGCGAATATCATGGTGGAAAATGGCCGCTTTTCTGGATTCTGACTGT  
GGCCGGCTGGGTGTGGCGGACCGCTATCAGGACATAGCGTTGGCTACCCGTGATATTGCTGAAGAGCTTGGCGGCAATG  
GGCTGACCGCTTCTCGTGCTTTACGCTATCGCGCTCCCGATTGCGAGCGCATCGCTTCTATCGCCTTCTTGACGAGT  
TCTTCTGAGGGGATCGATCCGCTCTGTAAGTCTGCAGAAATGATGATCTATTAACAATAAAGATGTCCACTAAAATGG  
AAGTTTTCTGTCTACTTTGTTAAGAAGGGTGAGAACAGAGTACCTACATTTGAATGGAAGGATTGGAGCTACGGGG  
GTGGGGGTGGGGTGGGATTAGATAAATGCTGCTCTTTACTGAAGGCTCTTTACTATTGCTTTATGATAATGTTTCATAG  
TTGGATATCATAATTTAAACAAGCAAAACCAATTAAGGGCCAGCTCATTCTCCCACTCATGATCTATAGATCTATAGA  
TCTCTCGTGGGATCATTGTTTTCTCTGATTCCCACTTTGTGGTTCTAAGTACTGTGGTTTCCAAATGTGTGAGTTTCA  
TAGCCTGAAGAACGAGATCAGCAGCCTCTGTTCCACATACACTTATTCTCAGTATTGTTTTGCCAAGTTCTAATCCAT  
CAGAAGCTGACTCTAGATCTGGATCCGGCCAGCTAGGCGCTCGACCTCGAGTGATCAGGTACCAAGGCTCTCGCTCTGTG  
TCCGTTGAGCTCGACGACACAGGACAGCAAAATTAATTAAGGCGGGCGTACCCTCTAGCTCAAGGCTTAAAGTGAAGT  
TATTGGCACTGGCGCTCGTTTTTACAACGCTCGTGACTGGGAAAAACCTGGCGTTACCCAACCTAATCGCCTTGCAGCACA  
TCCCCCTTTCCGACGCTGGCGTAATAGCGAAGAGGCCCGCACCGATCGCCCTTCCCAACAGTTGCGCAGCCTGAATGGCG  
AATGGCGCTTCCCTTGGTAATAAAGCCCGCTTCCGGCGGCTTTTTTTT

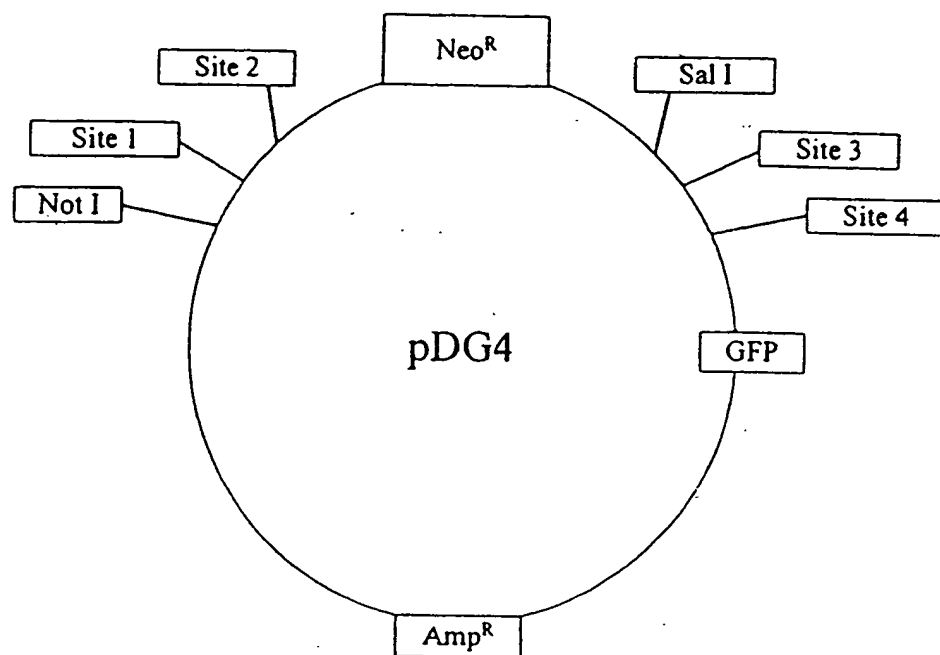


FIGURE 3A

FIGURE 3B

pDG4:

GTTTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATATATGGAGTTCCGCGTTACATAACTTACGGTAAATGG  
 CCGCCTGGCTGACCGCCCAACGACCCCGCCCATTTAGCGTCAATAATGACGTATGTTCCCATAGTAACGCCAATAGGGA  
 CTTTCCAATGACGTCAATGGGTGGAGTATTACGGTAAACTGCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGT  
 ACGCCCCCTATTGACGTCAATGACGGAAATGGCCCGCTGGCATTAAAGCCAGTACATGACCTTATGGGACTTTCCTAC  
 TTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTGATGCGGTTTGGCAGTACATCAATGGGCGTGATAGC  
 GGTTTGACTCACGGGGATTTCAGTCTCCACCCCATTTAGCTCAATGGGAGTTTGGTTTGGCACCAAAATCAACGGGAC  
 TTTCCAAAATGTCGTAACAACTCCGCCCATTTAGCGAAATGGGCGTAGGCGTGTACGGTGGGAGGTCTATAAAGCAG  
 AGCTGGTTTAGTGAACCGTCAGATCCGCTAGCGTACCGTGCCACCATTGGTGAGCAAGGGCGAGGAGCTGTTACCGG  
 GGTGGTGCCATCCTGGTGGAGCTGGACGGCGACGTAAACGGCCACAAGTTCAGCGTGTCCGGCGAGGGCGAGGGCGATG  
 CCACCTACGGCAAGCTGACCCTGAAGTTCATCTGCACCACCGGCAAGCTGCCCGTGGCCCTGGCCACCCTCGTGACCACC  
 CTGACCTACGGCGTGCACTGCTTCAGCCGCTACCCCGACCATGAAGCAGCAGCACTTCTCAAGTCCGCGCATGCCCGA  
 AGGCTACGTCCAGGAGCGCACCATTCTTCTCAAGGACGACGGCAACTACAAGACCCGCGCGAGGTGAAGTTCGAGGGCG  
 ACACCTGGTGAACCGCATCGAGCTGAAGGGCATCGACTTCAAGGAGGACGGCAACATCTGGGGCAAGCTGGAGTAC  
 AACTACAACAGCCACAACGTCTATATCATGGCCGACAAGCAGAAGAACGGCATCAAGGTGAACCTCAAGATCCGCCACAA  
 CATCGAGGACGGCAGCGTGCGCTCGCCGACCACTACCAGCAGAACACCCCATCGGCGACGGCCCCGCTGCTGCTGCCG  
 ACAACCACTACCTGAGGACCCAGTCCGCCCTGAGCAAAGACCCCAACGAGAAGCGGATCACATGGTCTGCTGGAGTTC  
 GTGACCGCCGCGGGATCACTCTCGGCATGGACGAGCTGTACAAGTCCGACTCAGATCCACCGATCTAGATAAATGAT  
 CATAATCAGCCATACCACATTTGTAGAGTTTACTTGTCTTAAAAAACCTCCACACCTCCCCCTGAACCTGAAACATA  
 AAATGAATGCAATTGTTGTTGTTAACTGTTTATTGCGCTTATAATGGTTACAAATAAGCAATAGCATCAAAATTTT  
 ACAAATAAGCATTTTTTCACTGCATTCTAGTTGTGGTTGTGCCAACTCATCAATGTATCTTAACGCGAACTACGTCA  
 GGTGGCACTTTTGGGGGAAATGTGCGCGGAACCCCTATTGTTTATTTTCTAAATACATTCAAAATATGTATCCGCTCAT  
 GAGACAATAACCTGATAAATGCTTCAATAATATTGAAAAAGGAAGATGAGTATTCAACATTTCCGTGTCGCCCTTA  
 TTCCCTTTTTTGGCGCATTTGCGCTTCTGTTTGTCTCACCCAGAAACGCTGGTGAAAGTAAAGATGCTGAAGATCAG  
 TTGGGTGCACGAGTGGGTTACATCGAACTGGATCTCAACAGCGGTAAAGTCTTGAGAGTTTTCGCCCGAAGAACGTTT  
 TCCAATGATGAGCACTTTTAAAGTCTGCTATGTGGCGCGGTATTATCCGCTGTGACGCGGGCAAGAGCAACTCGGT  
 GCCGCATACACTATTCTCAGAATGACTTGGTTGAGTACTCACCAGTCAAGAAAAGCATCTTACGGATGGCATGACAGTA  
 AGAGAAATTATGAGTGTGCTGCATAACCATGAGTGATAACTCGGCCAACTTACTTCTGACAACGATCGGAGGACCGAA  
 GGAGCTAACCGCTTTTTTGCAACAATGCGGGATCATGTAATCGCCTTGATCGTTGGGAACCGGAGCTGAATGAAGCCA  
 TACCAAAACGACGAGCGTGACACCAGATGCTGTAGCAATGGCAACACGTTGCGCAAACTATTAACTGGCGAACTACTT  
 ACTCTAGCTTCCCGGCAACAATTAATAGACTGGATGGAGGCGGATAAAGTTCAGGACCACTTCTGCGCTCGGCCCTTCC  
 GGCTGGCTGGTTTATTGCTGATAAATCTGGAGCCGGTGAGCGTGGGTCTCGCGGTATCATTCAGCACTGGGGCCAGATG  
 GTAAGCCCTCCGCTATCGTAGTTATCTACAGCAGCGGGAGTCAGGCAACTATGGATGAACGAAATAGACAGATCGCTGAG  
 ATAGGTGCTCACTGATTAAGCATTTGTTAACTGTGACACCAAGTTTACTCATATATACTTTAGATTGATTTACCCCGGTT  
 GATAATCAGAAAAGCCCCAAAACAGGAAGATTGTATAAGCAATATTTAAATTTGTAACGTTAAATTTGTTAAATTT  
 CGCGTTAAATTTTGTAAATCAGCTCATTTTTTAACTATAGGCGAAATCGGCAAAATCCCTTATAAATCAAAAGAAT  
 AGCCCGAGATAGGGTTGAGTGTGTTCCAGTTTGGAAACAGAGTCCACTATTAAAGAACGTGACTCCAACGTCAAAGGG  
 CGAAAAACCGTCTATCAGGGCGATGGCCCACTACGTGAACCATCACCCAAATCAAGTTTTTGGGGTTCGAGGTGCCGTAA  
 AGCACTAAATCGGAACCTTAAAGGGAGCCCCGATTAGAGCTTGACGGGGAAAGCGAACGTGGCGAGAAAGGAAGGGAA  
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 GGTGCTTGCAACAAAAAACACCGCTACCAGCGGTGGTTGTTTGGCGGATCAAGAGCTACCAACTCTTTTTCCGAAG  
 GTAAGTGGCTTACGAGAGCGCAGATACCAAACTAGTCTTCTAGTGTAGCGTAGTTAGGCCACCACTTCAAGAACTC  
 TGTAGCACCGCTACATACCTCGCTCTGCTAATCTGTTACCAGTGGCTGCTGCCAGTGGCGATAAGTCTGTCTTACCG  
 GGTGGACTCAAGACGATAGTTACCGGATAAGGCGCAGCGGTCCGGCTGAACGGGGGTTCTGTCACACAGCCAGCTTG  
 GAGCGAACGACCTACACCGAACTGAGATACCTACAGCTGAGCTATGAGAAAGCGCCACGTTCCCGAAGGGAGAAAGGC  
 GGACAGGTATCCGGTAAGCGGCAGGGTCCGGAACAGGAGAGCGCAGAGGAGCTTCCAGGGGAAACGCGCTGGTATCTTT  
 ATAGTCTGTGCGGTTTCCGCCACTCTGACTTGAGCGTCAATTTTGTGATGCTCGTCAGGGGGCGGAGCTATGGAAA  
 AACGCCAGCAACGCGGCTTTTTACGGTCTCTGGCCTTTTGTGCGCTTTTGTCTCACATGTAATGTGAGTTAGCTCACTC  
 ATTAGGCACCCAGGCTTTACACTTTATGCTTCCGGCTCGTATGTTGTGGAATTTGAGCGGATAACAATTTACACA  
 GGAAACAGCTATGACCATGATTACGCCAAGCTACGTAATACGACTCACTAGGCGGCGCGTTTAAACAATGTGCTCCTCT  
 TTGGCTTGCTTCCGCGGGCAAGCCAGACAAGAACCGATTGAGTCAAGCTTCCGGGAGGGGAGGCGCTTTTCCAAAGGAGTCTGGAGCAT  
 ATTCCTGAGGATTTCAGGGCCCCCTGCAAGTCAATCTACCGGTAGGGGAGGCGCTTTTCCAAAGGAGTCTGGAGCAT  
 GCGCTTTAGCAGCCCCGCTGGCACTTGGCGCTACACAAGTGGCTCTGGCTCGCACACATTCCACATCCACCGGTAGCG  
 CCAACCGGCTCCGTTCTTTGGTGGCCCCCTTCGCGCCACTTCTACTCTCCCTAGTACGGAAGTTCCTCCCGCGCCCGC  
 AGCTCGCGTCTGACGAGCGTGACAAATGGAAGTAGCAGCTCTCACTAGTCTCGTGAGATGGACAGCACCGCTGAGCAA  
 TGGAGCGGGTAGGCTTTGGGGCAGCGGCAATAGCAGCTTTGCTCCTTCTGCTTCTGGCTCAGAGGCTGGGAAGGGG  
 TGGGTCCGGGGCGGGCTCAGGGGCGGGCTCAGGGGCGGGCGGCGGAAGGTCTCCGAGGCGCGGCTTCTCGCAC  
 GCTTCAAAAGCGCAGCTCTGCGCGCTGTTCTCTCTCTCATCTCCGGCTTTTCGACCTGCAGCCAATATGGGATCG  
 GCCATTGAACAAGATGGATTGCACGCAAGTCTCCGGCGCTTGGGTGGAGAGGCTATTGGCTATGACTGGGCACAAACA  
 GACAAATCGGCTGCTCTGATGCCGCGGTGTTCCGGCTGTGAGCGAGGGGCGCCCGTTCTTTTGTCAAGACCGACCTGT  
 CCGGTGCCCTGAATGAAGTGCAGGACGAGGACGCGGCTATCGTGGCTGGCCACGACGGGCGTCTTGGCGAGCTGTG  
 CTCGACGTTGCTCAAGCGGAAGGAGTGGCTGCTATTGGGCGAAGTCCGGGGCAGGATCTCTGTCTCTCACCT

TGCTCCTGCCGAGAAAGTATCCATCATGGCTGATGCAATGCCGCCGCTGCATACGCTTGATCCGGCTACCTGCCCATTCG  
ACCACCAAGCGAAACATCGCATCGAGCGAGCAGTACTCGGATGGAAGCCGGTCTTGTGATCAGGATGATCTGGACGAA  
GAGCATCAGGGGCTCGCGCCAGCCGAACTGTTGCCAGGCTCAAGGCGCGCATGCCCGACGGCGATGATCTCGTCGTGAC  
CCATGGCGATGCCTGCTTGCCGAATATCATGGTGGAATGGCCGCTTTTCTGGATTTCGACTGTGGCCGGCTGGGTG  
TGGCGGACCGCTATCAGGACATAGCGTTGGCTACCCGTGATATTGCTGAAGAGCTTGGCGGCGAATGGGCTGACCGCTTC  
CTCGTGCTTTACGGTATCGCCGCTCCCGATTGCGAGCGCATCGCCTTCTATCGCCTTCTTGACGAGTTCTTCTGAGGGGA  
TCGATCCGTCTGTAAAGTCTGCAGAAATTGATGATCTATTAACAATAAAGATGTCCACTAAAAATGGAAGTTTTCTCTGT  
CATACTTTGTTAAGAAGGGTGAGAACAGAGTACCTACATTTTGAATGGAAGGATTGGAGCTACGGGGGTGGGGGTGGGT  
GGGATTAGATAAATGCCTGCTCTTACTGAAGGCTCTTACTATTGCTTTATGATAATGTTTCATAGTTGGATATCATAA  
TTTAAACAAGCAAAACCAAATTAAGGGCCAGCTATTCTCCCACTCATGATCTATAGATCTATAGATCTCTCGTGGGAT  
CATTGTTTTTCTCTTGATTCCCACTTTGTGGTTCTAAGTACTGTGGTTTCAAATGTGTGAGTTTCATAGCCTGAAGAAC  
GAGATCAGCAGCCTCTGTTCCACATACACTTCATTCTCAGTATTGTTTTGCCAAGTTCTAATTCATCAGAAGCTGACTC  
TAGATCTGGATCCGGCCAGCTAGGCCGTCGACCTCGAGTGATCAGGTACCAAGGTCCTCGCTCTGTGTCCGTTGAGCTCG  
ACGACACAGGACACGCAAATTAATTAAGGCCGGCCCGTACCCTCTAGTCAAGGCCTTAAGTGAGTCGTATTACGGACTGG  
CCGTGTTTTTACAACGTGCTGACTGGGAAAACCTGGCGTTACCCAACCTAATCGCCTTGCGAGCACATCCCCCTTTCCGC  
AGCTGGCGTAATAGCGAAGAGGCCCGCACCGATCGCCCTTCCCAACAGTTGCGCAGCCTGAATGGCGAATGGCGCTTCGC  
TTGGTAATAAAGCCCGCTTCGGCGGGCTTTTTTTT

FIGURE 3B (Continued)

Annealing site	Sequence	Sequence after digestion
1	5' tgtgtcctcttttggcttgcttccaa... 3' 3' acacgaggagaaaccgaacgaagggtt... 5'	5' tgtgtcctctcttttggcttgcttccaa... 3' 3' tt... 5'
2	5' ctgggttcttgctggcttgcccaa... 3' 3' gaccaagaacagaccgaaccgggtt... 5'	5' ctgggttcttgcttgcttgcccaa... 3' 3' tt... 5'
3	5' ggctcctcgctctgtgtccggttgaa... 3' 3' ccaggagcgagacacagggcaactt... 5'	5' ggctcctcgctctgtgtccggttgaa... 3' 3' tt... 5'
4	5' ttgctgtgtcctgtgtcgtcgaa... 3' 3' aaacgcacaggacacagcagcgtt... 5'	5' ttgctgtgtcctgtgtcgtcgaa... 3' 3' tt... 5'

FIGURE 4

Annealing site	Sequence	Sequence after digestion
1	5' AAtgtgtcctctcttcttggcttgcttCCGC 3' 3' Ttaccgaggagaaaccgaacgaagg 5'	5' AA 3' 3' Ttaccgaggagaaaccgaacgaagg 5'
2	5' AActggttcttgtctgtgcttgCCGC 3' 3' Ttgaccaagaacagaccgaaccggg 5'	5' AA 3' 3' Ttgaccaagaacagaccgaaccggg 5'
3	5' AAggtcctcgctctgtgtccgttGAGCT 3' 3' Ttccaggagcgagacacagggaac 5'	5' AA 3' 3' Ttccaggagcgagacacagggaac 5'
4	5' AAtttgcgtgtcctgtgtcgtcGAGCT 3' 3' Ttaaacgcacaggacacagcagc 5'	5' AA 3' 3' Ttaaacgcacaggacacagcagc 5'

FIGURE 5



FIGURE 6

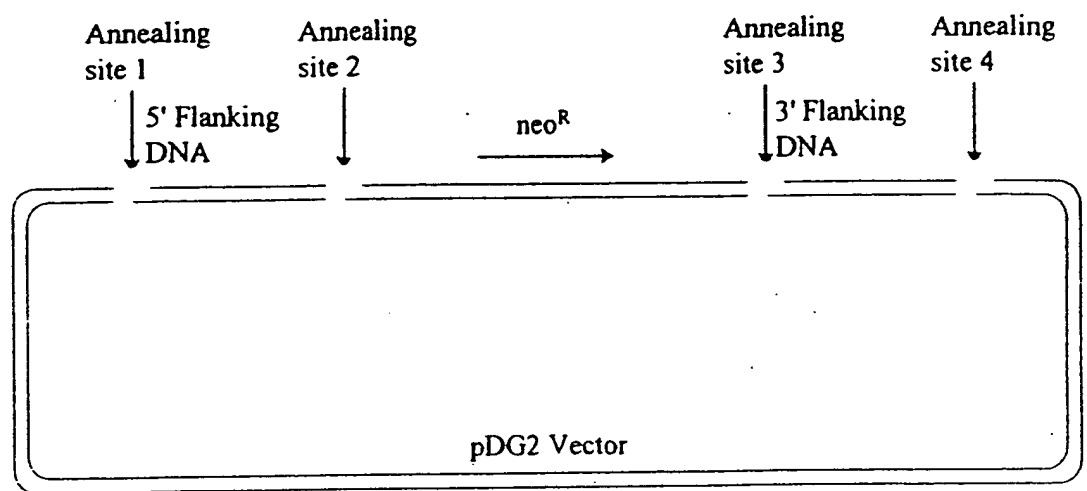
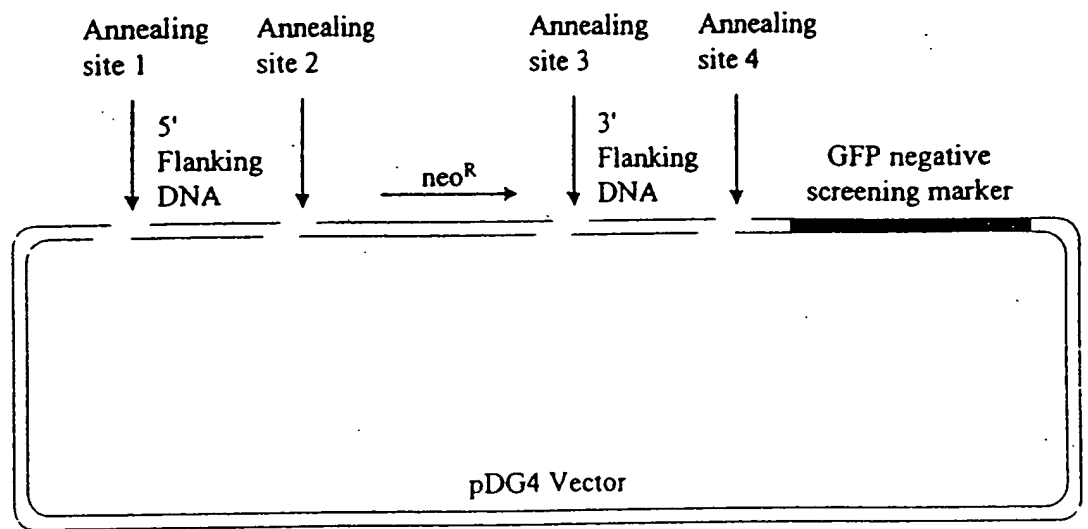


FIGURE 7



GGACATGGACTGCTATCTGCGTCGCCTCAAACAGGAGCTGATGTCCATGAAGGAGGTGGGGGATGGCTTG  
 CAGGATCAGATGAACTGCATGATGGGCGCAGACTGGGCTAGCTGGAGAGAGACAAGAACCAAAAGCACAG  
 CCTTCCTGTGTGATTTCTACAGCCCCAGAGCACCATGGACCCAGGGAAACCCAGGAAAAACGTGCTGGT  
 GGTGGCTCTCCTTGTCAATTTCCAGGTGTGCTTCTGCCAAGATGAGGTCACCGATGACTACATCGGCGAG  
 AATACCACGGTGGACTACCCCTGTACGAGTCGGTGTGCTTCAAGAAGGATGTGCGGAACCTTAAAGGCCT  
 GGTTCCTGCCTCTCATGTATTCTGTCTGCTTCGTGGGCCTGCTCGGCAACGGGCTGGTGATACTGAC  
 GTACATCTATTTCAAGAGGCTCAAGACCATGACGGATACCTACCTGCTCAACCTGGCCGTGGCAGACATC  
 CTTTTCTCCTAATTCTCCCTTCTGGGCCTACAGCGAAGCCAAGTCCTGGATCTTTGGCGTCTACCTGT  
 GTAAGGGCATCTTTGGCATCTATAAGTTAAGCTTCTTCAGCGGGATGCTGCTGCTCCTATGCATCAGCAT  
 TGACCGCTACGTAGCCATCGTCCAGGCCGTGTCGCGTCATCGCCACCGCGCCCGCGTCTTCTCATCAGC  
 AAGCTGTCTGTGTGGGCATCTGGATGCTGGCCCTCTTCTCTCCATCCCGGAGCTGCTCTACAGCGGCC  
 TCCAGAAGAACAGCGGCGAGGACACGCTGAGATGCTCACTGGTCAGTGCCCAAGTGGAGGCTTGATCAC  
 CATCCAAGTGGCCCAGATGGTTTTTGGGTTTCTAGTGCCTATGCTGGCTATGAGTTTCTGCTACCTCATT  
 ATCATCCGTACCTTGTCCAGGCACGCAACTTTGAGCGGAACAAGGCCATCAAGGTGATCATTTGCCGTGG  
 TGGTAGTCTTCATAGTCTTCCAGCTGCCCTACAATGGGGTGGTCTTGGCTCAGACGGTGGCCAACTTCAA  
 CATACCAATAGCAGCTGCGAAACAGCAAGCAGCTCAACATTGCCTATGACGTACCTACAGCCTGGCC  
 TCCGTCCGCTGCTGCGTCAACCCCTTTCTTGTATGCCTTCATCGGCGTCAAGTTCGCGAGCGACCTCTTCA  
 AGCTCTTCAAGGACTTGGGCTGCCTCAGCCAGGAACGGCTCCGGCACTGGTCTTCTGCCGGCATGTACG  
 GAACGCGTCGGTGAGCATGGAGGCGGAGACCACCAACCTTCTCCCGTAGGGGGCTCCCCTGCCCGGA  
 CTACAAGGACCTCTCCCAGGAGCCTTAATGTGGTGCACACATGCACAGACTCTCCATCCACCGAATTGCT  
 GCTGAGGGAAGAGCAATTCTGGCCAGTCAGGTTGACATGAGGACCTAAGAAAAGTCTTAACCCCATCCCA  
 CTTATAACTACCTCAACCAAAGCTGTAAAAGATATGGCTGAGAAGTTAACTCAAGCCAAGACAGCTAT  
 CCCCCAACGACAGCCAAAAGTGAAAGTGAGAGGCTCCACACTTTCGGAGTGAGGGATGTGGGGCCAGT  
 GAACACCCTGGTTGAGTAGTCTTCGGAGGCCCTCTGAATGAACCTGCTTCTAGCTTAGAGAGATGTCCCGG  
 AGATTCAAGACAGAGCTTATCTCCACACTTAGCAAGCAAGAGATGACAGTCTCTCTAAATGTCCC  
 ACAGAGACCCCTGCCCCCTCCCTTCTGCCTCTCCACCGCCTTTCCTGAGGTCCAGGCCACACCATGACGC  
 TGAGGCAGTCCCAGCTGGGGCTCTGGATGGCAATGACAAGTAGTTGGGTCTCTATGATGGGAATAAAAAG  
 GTAGGGGAAAGGTGACAGGAAGGAGAGAAGGTGACCCTGCTGGCTGACAGAGGCCAGCAAGCTACTTCTT  
 TGTTCTCTGTGACCCAGCCACTGATACCTTTCCTCATGTTCTGCTTTTGATTTCATATATCTTTTATGAAG  
 AAACAAATAAAAAAAAAAATTTTCCCTCGAGGAAACAACCTGG  
 (SEQ ID NO:19)

**Targeting Vector (5' arm; 200 bp flanking neo insert):**

GATGACTACATCGGCGAGAATACCACGGTGGACTACACCCTGTACGAGTCGGTGTGCT  
 TCAAGAAGGATGTGCGGAACCTTAAGGCCTGGTTCCTGCCTCTCATGTATTCTGTCATC  
 TGCTTCGTGGGCTGCTCGGCAACGGGCTGGTGATACTGACGTACATCTATTTCAAGA  
 GGCTCAAGACCATGACGGATACCTA (SEQ ID NO: 21 )

**Targeting Vector (3' arm; 200 bp flanking neo insert):**

AACCAGCAAGCAGCTCAACATTGCCATGACGTACCTACAGCCTGGCCTCCGTCCGCT  
 GCTGCGTCAACCCCTTCTTGTATGCCTTCATCGGCGTCAAGTTCGCGAGCGACCTCTTC  
 AAGCTCTTCAAGGACTTGGGCTGTCTCAGCCAGGAACGGCTCCGGCACTGGTCTTCCT  
 GCCGGCATGTACGGAACGCGTCGGT (SEQ ID NO: 22 )

**FIG. 8**